
Attachment II

Supporting Documentation

DRAFT - For Discussion Only

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This section provides more information on Step 2, Detailed Evaluation. While Step 2 uses **distinguishing characteristics** to manage the amount of information used in the comparisons between the alternatives, backup information will be available on how well each alternative meets the program objectives, the resultant impacts of each alternative, and application of the solution principles. The 16 distinguishing characteristics actually represent a consolidated set of the objectives, impacts, solution principles, and other data (costs, assurances, etc.) that make the most difference in selection of a draft preferred alternative. Following is more detail on information that will be documented for selection of the draft preferred alternative.

Rank How Well Each Alternative Meets the Program Objectives

All alternatives are intended to meet the Program objectives. However, the 17 alternative variations provide different ways of meeting the Program objectives. Due to the different alternative configurations, one alternative may meet some objectives better than other alternatives but may not meet other objectives as well.

Early in Phase I of the Program, CALFED staff, agencies, and stakeholders identified a number problems in the Bay-Delta system. Objectives were also developed to solve problems for the ecosystem, water quality, levee system vulnerability, and water supply reliability. Approximately 133 objectives and subobjectives were identified by the process. However, most of these can be further divided into several geographic areas or by different water year types. Considering all these divisions, approximately 260 objectives and subobjectives must be considered.

Since many parts of the alternatives are identical, the performance of all alternatives will be the same for some Program objectives and subobjectives. The rankings for these objectives have little influence on selection of a draft preferred alternative and will be documented and temporarily set aside to simplify alternative comparisons. The analyses will concentrate on ranking and comparing alternatives based on the performance for objectives and impacts that are addressed by the distinguishing characteristics of the alternatives (see discussion on pages 4-7 of the *Decision Process to Draft Preferred Alternative*) that are different between alternatives. Depending on availability of adequate analytical information to assess how well an alternative meets a Program objective, the evaluation may be a quantitative assessment (Modeling analysis, etc.), or a qualitative assessment (professional judgement).

Of more than 260 objectives and subobjectives, approximately 32 objectives and subobjectives may vary by alternative. These are primarily objectives that change with water flow or other changes associated with the storage and conveyance configurations. The following tables show the objectives and subobjectives which vary by alternative and the distinguishing characteristics that provide information for each.

Ecosystem Quality Objectives

Ecosystem Quality Objectives that Vary by Alternative		Distinguishing characteristics which provide information
A.	Improve and Increase Aquatic Habitats so that they can support the sustainable production and survival of native and other desirable estuarine and anadromous fish in the estuary.	Export Diversion Delta Flow Circulation Storage and Release of non-eniro water
5.	Provide Sufficient Transport Flows at the proper times to move eggs, larvae, and juvenile fish from spawning habitats to nursery habitats in the Delta and Bay.	Same as above
c.	Reduce the Transport of Young Fish from North to South across the Delta and the entrainment of fish in the Delta to increase the survival and abundance of estuarine and anadromous species.	Same as above
6.	Reestablish Appropriate upstream and downstream movement of anadromous and estuarine fish.	Same as above
a.	Enhance Upstream Migration of Adult Salmonids through the Delta.	Same as above
b.	Increase Successful Outmigration of Juvenile Fish through the Delta.	Same as above
c.	Enhance Upstream Migration of Adult Estuarine Fish into the Delta and river spawning areas.	Same as above
7.	Improve the Productivity of the Bay-Delta Aquatic Habitat Food Web to support sustainable populations of desirable fish (and other) species.	Same as above
a.	Reduce Entrainment of biological productivity throughout the aquatic food web.	Export Diversion
d.	Increase the Residence Time of Water in Delta Channels to increase plankton productivity and reduce undesirable algal-mat growth in the Delta.	Delta Flow Circulation
8.	Reduce Concentrations of Toxic Constituents and Their Bioaccumulation to eliminate their adverse effects on populations of fish and wildlife species.	Delta Flow Circulation Storage and Release of non-eniro water
B.	Improve and Increase Important Wetland Habitats so that they can support the sustainable production and survival of wildlife species.	Storage and Release of non-eniro water
C.	Increase population health and population size of Delta species to levels that assure sustained survival.	Export Diversion Delta Flow Circulation Storage and Release of non-eniro water

1.	Contribute to the recovery of threatened, endangered or species of special concern.	Same as above
2.	Increase populations of economically important species.	Same as above

Water Quality Objectives

Water Quality Objectives that Vary by Alternative		Distinguishing characteristics which provide information
A.	Provide good water quality in Delta water exported for Drinking Water needs.	In-Delta water quality Export drinking wq
3.	Minimize the Cost of Treating Delta water and continue to meet the existing drinking water quality standards.	Same as above
5.	Improve Raw Water Quality and/or treatment to comply with stricter future drinking water regulations.	Same as above
B.	Provide good Delta water quality for Agricultural use.	Same as above
1.	Improve or manage water quality to Maintain or Improve Agricultural Economic productivity by reducing water quality contaminants that reduce crop productivity on lands receiving Delta water, reduce cropping choices, or increase costs.	Same as above
C.	Provide good Delta water quality for Industrial use.	Same as above
1.	Reduce Industrial Treatment and/or Production Costs.	Same as above
D.	Provide good Delta water quality for water Recreational use within the Delta.	In-Delta water quality
1.	Reduce Health Risk to recreationists.	Same as above
E.	Provide improved Delta water quality for Environmental needs.	Same as above

Water Supply Reliability Objectives

Water Supply Reliability Objectives that Vary by Alternative	Distinguishing characteristics which provide information
A. Reduce the conflict among beneficial water users and improve the ability to transport water through the Bay-Delta system.	Water supply opportun. Water transfer opp. System op. flexibility So. Delta channel stage
1. Maintain adequate Bay-Delta system supplies to meet the existing and future short- and long-term in-Delta beneficial use needs.	Same as above
2. Improve Bay-Delta system export water supply and timing to help meet reasonable existing and future short-term and long-term needs.	Same as above
3. Improve the adequacy of Bay-Delta water to meet short-and long-term expected needs for Delta outflow (see Ecosystem Quality section).	Water supply opportun. Water transfer opp. System op. flexibility
B. Reduce the uncertainty of Bay-Delta system water supplies to help meet short- and long-term needs.	Same as above

Levee System Integrity Objectives

Levee System Integrity Objectives that Vary by Alternative	Distinguishing characteristics which provide information
B. Manage the risk to water supply facilities and operations in the Delta from catastrophic inundation of Delta islands.	Risk to water supply facilities and operations
2. Manage the risk of interruption of export water supply which can result from sudden catastrophic island inundation and the resultant salinity intrusion. (See Water Supply Objective Statement).	Same as above

Rank How Well Each Alternative Minimizes the Resultant Impacts

The process to rank the alternatives by the least adverse consequences will come directly from the impact analysis for the programmatic EIR/EIS. Reports for each of 26 resource areas will summarize and compare the impacts for each alternative. The alternatives which minimize adverse consequences will be provided the highest ranking.

Several distinguishing characteristics for the alternatives were outlined in the accompanying *Decision Process to Draft Preferred Alternative* report. The information for most of these will come directly from the impact analysis. The habitat disturbance, socio-economic impacts, and land use distinguishing characteristics summarize the major impacts for use in selection of a draft preferred alternative.

Decision Matrix

The decision-makers will be provided with a matrix (decision matrix) containing information on how alternatives perform on key issues (distinguishing characteristics, objectives, impacts, solution principles) of interest. The decision matrix will be developed using several supporting matrices containing more detailed information. These supporting matrices will provide a thorough documentation and summary of how results were derived.

The decision matrix will provide comparisons of alternatives and a summary of important information needed for selection of a draft preferred alternative in one display. For each alternative, the decision matrix will indicate how it is judged to perform with respect to important impacts, Program objectives, and solution principles. A matrix, with supporting information, showing alternative performance for the distinguishing characteristics will provide a compact way to compare the major alternative differences.

Recommended Draft Preferred Alternative

A recommended draft preferred alternative will be included with the decision matrix. This effort will require simultaneously examining how well alternatives meet the Program objectives, the resultant impacts, costs, assurances, and solution principles. Selection of a recommended draft preferred alternative will be based on the collective judgement of CALFED staff and CALFED agencies considering the following:

- Alternatives that rank highest against the Program objectives.
- Incremental differences between the additional cost incurred or the additional adverse impacts incurred by an alternative which meets the Program objectives better than another alternative. For example, one alternative may meet the Program objectives slightly better than another alternative but may have much higher costs or much higher adverse impacts. The incremental costs, impacts, and benefits should be considered in seeking a reasonable balance.
- Uncertainty in analytical methods. In addition, there is an understanding that the

more an alternative departs from current measurable conditions, the more uncertain the ultimate success. Therefore, the ability to adaptively manage the various portions of the alternatives will be considered.

The best alternative will be the one that contributes highly to achieving the Program objectives, with manageable (can reasonably be mitigated) adverse impacts, at a reasonable cost, and meets the Program solution principles in a balanced fashion. The recommended draft preferred alternative and the decision matrix and supporting information will go to the CALFED agencies for selection of the draft preferred alternative.